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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,581	03/20/2001	Akira Fukunaga	FUKUNAGA--3	2108
1444	7590	10/29/2003	EXAMINER	
BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			EDMONDSON, LYNNE RENEE	
			ART UNIT	PAPER NUMBER
			1725	

DATE MAILED: 10/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Advisory Action</b>	Application No. 09/811,581	Applicant(s) FUKUNAGA ET AL.	
	Examiner Lynne Edmondson	Art Unit 1725	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 16 September 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY** [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
  - (b) ☐ they raise the issue of new matter (see Note below);
  - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
  - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_

3. ☒ Applicant's reply has overcome the following rejection(s): 102 rejection of claim 49 as anticipated by Murray.
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: claim 60, the article claim stands rejected.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: 49.

Claim(s) objected to: \_\_\_\_\_

Claim(s) rejected: 60.

Claim(s) withdrawn from consideration: \_\_\_\_\_

8. ☐ The proposed drawing correction filed on \_\_\_\_\_ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_
10. ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claim 60 is rejected under 35 U.S.C. 102(e) as being anticipated by Murray et al. (USPN 6262129 B1).

Murray teaches a composite metallic ultrafine particle comprising a metal core formed from a metallic salt having a diameter of up to 20 nm wherein the metal is surrounded by an organic material (col 1 lines 1-20). The metal can be any metal particle such as Au, Ag, Pt, Pd, Ni, Co, Cu and other transition metals (col 1 lines 40-67 and col 6 lines 18-32) and includes an organic group which surrounds the metal core in an amount between 0.1 and 1 molecule (col 6 lines 55-67 and figures 4, 7, 8 and 14). The organic group may be an alcoholic hydroxyl (col 3 lines 36-48), carboxyl or thiol group (col 6 line 55 – col 7 line 11). The metallic salt is an acetate (col 7 lines 53-66) or chloride (claims 13-18) which is dissolved/decomposed under reflux conditions (heating) in a hydrophilic solution (alcohol) and adding to a hydrophobic nonaqueous solvent (hydrocarbon) an organic compound and a reducing agent comprising acid (col 3 line 6 – col 4 line 28). . The solution may also contain antioxidants (oleic acid, glycol,

phospine) for enhanced stability (col 7 lines 10-52). The alcohol chain may be straight or branched (col 6 lines 55-62). The particle is formed by chemical reaction (col 1 lines 8-20). See also Murray claims 1-43.

### ***Response to Arguments***

2. Regarding applicant's argument that Murray teaches a different method of making the particle, it is noted that the particle has the same final composition, structure and properties although made from a solution containing additional components. There is no indication that the method of fabrication produces unexpected results or produces a particle having different characteristics. The particle as claimed comprises a metal source and organic compound mixed and heated to chemically form a nanoparticle with a metal core and an organic covering. The term "comprises" allows for the addition of other materials.

Therefore the 102 rejection of claim 60 as anticipated by Murray stands.

### ***Allowable Subject Matter***

3. Claim 49 is allowed.
4. The following is an examiner's statement of reasons for allowance: The closest prior art teaches the invention essentially as claimed but does not teach a method consisting of the step of only providing a metal source and providing an organic

compound which are subsequently mixed and heated. See Murray (USPN 626129) and Funaki et al. (USPN 6054507) which add additional compounds.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fukunaga et al. (US 2002/0160103), Cheon et al. (US 2003/0039860 A1), Mirkin et al. (US 2002/0177143 A1), Nagasawa et al. (WO 98/26889 A1), Leone et al. (USPN 6054507), Fukunaga et al. (EPN 1107298 A2) and Das et al. (USPN 4680204, alcoholic hydroxyl nanoparticles, oxide core).

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (703) 306-5699. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-7115 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

LRE  
October 7, 2003

Lynne Edmondson  
Examiner  
Art Unit 1725

A handwritten signature in black ink, appearing to read 'Lynne Edmondson', followed by the date '10/7/03' written vertically.